# SCIENCE & GOVERNMENT REPORT

**24th Year of Publication**

**The Independent Bulletin of Science Policy**

Volume XXIV, No. 9 | P. O. Box 6226A, Washington, D. C. 20015 | © May 15, 1994

## Advisor in the Gallo Case Calls for Reopening Probe

Like an underground fire that won't go out, resentment continues to seethe over the official exoneration of the renowned Robert C. Gallo from charges that he robbed French researchers of credit for identification of the AIDS virus.

Breaking a long silence, Frederic M. Richards, a Yale professor emeritus who was a scientific consultant to the Director of NIH in the Gallo investigation, told SGR in an interview on April 25 that two items of newly available evidence warrant a reopening of the investigation.

First, Richards cited sworn statements by a French researcher, Francoise Barre-Sinoussi, head of the Retrovirus Biology Unit at the Pasteur Institute. The statements assert that Gallo's laboratory subordinate, Mikulas Popovic, admitted to her in a personal conversation in August 1992 that he used LAV, a virus supplied to Gallo by Pasteur, to grow the culture used in identifying the virus. Gallo, a lab chief at the National Cancer Institute, initially claimed that AIDS was

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caused by a virus he had discovered, HTLV-IIIb, but later conceded the possibility of accidental contamination by the French virus.

Popovic denies making the statement, and Barre-Sinoussi has since modified her account of the alleged conversation, contending that, rather than making a positive statement, Popovic did not contradict her assertion that "LAV had indeed been added to the pool." However, Barre-Sinoussi insists that the essential point—deliberate use of the French virus—remains intact.

The second item of evidence cited by Richards is a recently discovered cache of letters and memoranda in NIH files written by Gerald Myers, a researcher at the Los Alamos National Laboratory who served as Principal Investigator of the HIV Sequence Data Base, under a contract from NIH. In 1987, Myers reported to NIH that his researches indicated that LAV, and not Gallo's HTLV-IIIb, was the cause of AIDS. Myers subsequently stated that after his findings were brought to Gallo's attention, Gallo gave but then reneged on an assurance that he would publish a statement reflecting Myers' conclusion.

Asked by SGR on May 11 to comment on Myers' report, Gallo said that he is "under orders from Sam Broder [Director of the National Cancer Institute] not to discuss the case." But

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## *NIH Intramural Program Draws Critical Review*

Inspired by hard competition for biomedical-research money, a new look at NIH's intramural programs has produced proposals for an austerity strategy and tighter administration on the 300-acre Bethesda, Md., campus. The stated goal is economy in combination with an upgrade in NIH's inhouse scientific quality, which, by various accounts, has sagged in recent years.

The proposals, written by an outside advisory committee of senior biomedical mandarins, were accompanied by the gloomy fiscal mood that infests Washington's thinking these days. "It is unlikely that the NIH intramural budget will increase significantly beyond the cost of inflation in the foreseeable future," the committee report states," adding:

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## In Brief

**PhD unemployment in science and engineering is beginning to fester as a political issue. The Administration party line, enunciated by White House Science Advisor John Gibbons and NSF Director Neal Lane, is that the jobless rate is relatively low, and academic mills should grind on but prepare graduates for job-hopping careers in and around science and engineering. The PhD, they say, should be regarded like a law degree—a ticket to various kinds of work.**

***The formula has aroused serious skepticism in Congress, where Senator Barbara Mikulski (D-Md.) Chair of the NSF Appropriations Subcommittee, has raised questions about the future for highly trained graduates. Meanwhile, the House Science, Space, and Technology Committee is collecting data and opinions about federal training programs and policies, and plans to hold hearings, date not yet set. The National Science Board, policymaking body of the National Science Foundation, has ordered a long-range study of NSF's training role in relation to the national economy.***

**The International Alliance for Higher Education, a new organization to link universities and private organizations in the US, China, and the ex-Soviet bloc, has been organized by Oak Ridge Associated Universities, a consortium of some 80 US doctoral-granting institutions. For information: Jon Veigel, ORAU, PO Box 117, Oak Ridge, Tenn. 37830-0117; tel. 615/576-3300; fax 615/576-3643.**

***Progress at the National Academy of Sciences: The latest election of members added a record number of women to the retrograde institution—nine out of a crop of 60 new members. The total number of members now stands at 1710, of whom 85 are women.***

# . . . Report Critical of Big Lab "Fiefdoms" at NIH

*(Continued from Page 1)*

"One way to make room for new investigators will be to reclaim resources from those investigators whose research is no longer productive. Such reclamation is essential for the long term health of the NIH."

The report calls for a "renewal" of the NIH Clinical Center, with 250 beds, rather than the present 422, and more external scientific review in NIH's internal research programs. Reporting a "Balkanization" of authority and roles among NIH's 24 institutes, centers, and divisions, the advisory committee also recommends greater administrative power for the Director of NIH.

It warns that large "fiefdoms" headed by senior scientists have sprouted in the intramural program, and suggests breaking them up in favor of small, independent groups, with an emphasis on youth. The report, however, recommends more turnover in NIH's youthful ranks, stating, "Trainees should be encouraged to seek positions outside NIH following a two-to-four-year program so as to continuously provide space and resources for recruitment of new trainees."

Similar reviews over the past two decades have led to minor or no changes at all in NIH's operations, which derive their administrative spirit from special laws of inertia. But these proposals arise from a study ordered last year by the House Appropriations Committee, whose favor NIH must court. An old, reliable friend of NIH, the Committee expressed concern about lack of a rationale in NIH's division of resources between intramural and extramural programs.

Noting overcrowding and physical decline in intramural research facilities, the Appropriations Committee also chilled expectations for development of a new campus—a goal espoused by Bernadine Healy during her imperial directorship, 1991-93. Seeking guidance in shaping next year's budget, the Committee said it "expects the new Director of NIH to review carefully the role, size and cost of the intramural program." The advisory committee on the intramural program was spawned by that expectation.

A similar study, of course, might have been decreed for the NIH extramural program, which consumes nearly $9 billion a year, compared to $1.2 billion intramurally. But most of the grousing about biomedical economics comes from the outsiders, scraping along from grant to grant, while the staff in Bethesda enjoys guaranteed research support, though usually lesser salaries and perks in the upper ranks.

The advisory report notes that the intramural program is suffering financially, but points out that in the NIH extramural program, "Funding of new grants is at an all-time low of about 15 percent of submitted proposals." Congressmen hear these complaints from constituents and lobbyists for universities and hospitals, and commission studies accordingly.

The intramural study was conducted by a 10-member External Advisory Committee co-chaired by Gail H. Cassell, Chair of Microbiology, University of Alabama, Birmingham, and Paul A. Marks, President and CEO, Memorial Sloan-Kettering Cancer Center, NY. The members, all drawn from outside NIH, were assisted by a "Fact Finding Executive Working Group" of senior NIH staff members.

The 69-page report is cluttered with recommendations, but in terms of the politics of NIH, the most important ones concern enlarging the role of external advisors. One recommendation proposes creation of a standing advisory committee to the chief of intramural research, with members drawn mainly from the ranks of outsiders who chair the external boards of NIH's various components. This committee, the report states, "should be charged to provide ongoing review of the *processes* of quality control across the NIH."

Proposing further enlargement of the advisory role of outsiders, the report says that the extramural research community should be brought into a new process for annually making plans to divide NIH resources between intramural and extramural programs. Calling for "extensive consultation with the extramural research community," the report says, "The overall NIH scientific mission should be assessed and allocation decisions made on the basis of scientific excellence and opportunity."

Without explanation, however, the report states that funding for the intramural research program "should not exceed the current rate of 11.3 percent of the total NIH budget." It implies, however, that the percentage could fall below that figure, stating that the amount "should be reviewed and appropriately adjusted through the prospective planning process...."

While endorsing prospective peer review for the extramural program, the report said the intramural program should stick with its traditional process of retrospective review, i.e., looking back rather than assessing proposals for future research. The retrospective method was justified as suitable for an establishment with long-term projects and a large, tenured staff.

Harold Varmus, the Director of NIH, expressed satisfaction with the recommendations, and said he would adopt all those within his power and seek the necessary approval from above for the others. The report, distributed at a press briefing May 4, was described as a "draft" still subject to changes. NIH says copies for the public might be available in June.

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Published by Science & Government Report, Inc., twice monthly, except once each in January, July, August, and September. Annual subscriptions: Institutions, $425.00 (two years, $730.00). Bulk and individual rates upon request. Editorial offices at 3736 Kanawha St. NW, Washington, DC 20015. Tel. (202) 244-4135. For subscription service: PO Box 6226A, Washington, DC 20015. Tel. 1-800-522-1970; in Washington, DC 785-5054. Reproduction without permission is prohibited. SGR is available on University Microfilms International. Claims for missing back issues will be filled without charge if made within six weeks of publication date. ISSN 0048-9581.

# NIH Under Review: Staff Quality, CRADAs, Etc.

The Congressionally mandated review of NIH's intramural program harvested a variety of scattered information about the NIH Intramural Research Program (IRP), the world's biggest concentration of biomedical research.

NIH, mainly on its Bethesda, Md., campus is homebase for 1100 tenured scientists, 2146 non-tenured scientists, 250 "staff scientists," 2410 postdocs, and 194 trainees of various kinds. The postdoctoral fellows in Bethesda account for 15 percent of all NIH-supported postdocs. Training stipends for PhDs at NIH now total $120 million a year. In 1992, over 50 percent of the postdoctoral trainees were foreign.

According to the report, the "majority of individuals appointed to the current permanent staff at NIH first arrived at NIH as postdoctoral fellows"—a recruitment pattern that drew a frown from the authors of the report, who suggested that residence be limited to two to four years.

The present durability of the appointments, they suggested, discourages fresh talent, and undermines quality. Recruitment is handicapped, the report continues, "because there are now mechanisms in place to allow non-tenured postdoctoral fellows to remain at NIH for up to eight years."

The report says NIH provides relatively good pay for its own postdocs—$25,000 to $30,000 a year. "In comparison," it points out, "stipends for individual or institutional trainees under the National Research Service Awards begin at $18,000 and cannot be supplemented with funds from other sources, i.e., federal grants."

The intramural report says that Bethesda has done little to assess its training role, despite creation in 1990 of the NIH Office of Education "with centralized responsibilities in the areas of recruitment, education, and training." The report says there's no data base on incoming postdocs or on their post-NIH scientific track record. Because of this, the committee said, it was "hesitant to comment further upon the quality of the current IRP training program," but it was evident that it has serious reservations.

The review committee described the Clinical Center as the core of the intramural program. Consuming nearly one third of the intramural budget, the Clinical Center brings together laboratory space and hospital facilities originally designed for 540 beds, plus ambulatory clinics. But, citing "vivid evidence of deterioration of the infrastructure and laboratories," it concluded that the place is falling apart, despite some recent renovations.

Options for renovating or replacing the Clinical Center, the report says, range in estimated cost from $874 million to $1.2 billion. But, noting that the highest occupancy rate of the 422 beds available last year was merely 58 percent, the committee called for a step-by-step program of renewal aiming for 250 beds.

Among options cited and rejected was "acquisition of the Uniformed Services University of the Health Sciences facility," across the road from NIH. The Pentagon-financed medical school, struggling to survive against a death warrant in Vice President Gore's plans for reinventing government, is drawing the vultures.

Reviewing NIH's response to political exhortations for closer ties between government labs and industry, the intramural review committee reported sluggishness in Bethesda. The legal instrument and the arithmetical measure of these relationships is the Cooperative Research and Development Agreement (CRADA), created by the Federal Technology Transfer Act of 1986.

Taking the numbers from a study by the Inspector General of the Department of Health and Human Services, the committee noted relatively little CRADA activity on the NIH campus. Since 1988, it reported, the number of new CRADAs per year at NIH has never exceeded 50, compared to 300 in the Department of Energy labs. The unmentioned difference is that DOE labs have grabbed onto CRADAs as lifeline now that their weapons role has been severely diminished; NIH, on the other hand, doesn't need to do business with industry.

Referring again to the IG's study, the review committee observed that the inclusion of a "reasonable pricing" clause for products derived from NIH CRADAs was an inhibiting factor for industry, but it also noted other problems. Concluding that NIH has not reached out to industry, it cited "lengthy and complex procedures to create a CRADA, inadequate advertising of CRADA opportunities, the absence of a central data base to track CRADAs, and limited NIH oversight of the process."

Comparing average approval times for CRADAs, the report says that NIH requires 10 months, while the deals are closed in less than two months at the National Institute of Standards and Technology. "The review and approval of a CRADA at NIH," the committee concluded, "is a time-consuming, cumbersome and unnecessarily complex process. The process requires scientific, policy, legal, commercial and administrative review."

Finally, the committee searched to understand why the NIH intramural program has "remained essentially constant at 11.3 percent [of the total NIH budget] for the past decade." It reported finding some attempts at a rational process, but "no consistent policy" across NIH.

Noting that most institutes simply maintain the same rate of growth for their intramural and extramural programs, the report concludes: "Thus, historical distribution of funds becomes in part a rationale for current decisions."

# . . . New Evidence Shows "They Stole the Virus"

*(Continued from Page 1)*

Gallo left no doubt that his position is that Myers' allegations are baseless.

NIH officials say the Myers papers were found after the Gallo case was officially over—dropped last year by the government for fear that it couldn't satisfy the evidentiary requirements of an appeals hearing. The decision to withdraw the findings against Gallo was made after the Health and Human Services Departmental Appeals Board threw out the case against Popovic last November in a scorching decision that disputed the existence of even "a residue of palpable wrongdoing."

Richards, who testified for the government in the Popovic misconduct hearing, describes the Appeals Board decision as "atrocious," a view shared by other researchers encountered by SGR. The Departmental Appeals Board is mainly occupied with cases concerning Social Security payments and eligibility, and has virtually no experience or competence in scientific issues.

The Barre-Sinoussi evidence, in sworn statements to lawyers for the Department of Health and Human Services and Congressional investigators, also came too late to be used in the Popovic-Gallo proceedings.

Richards was one of eight consultants appointed in 1990 to advise the Gallo-case investigators and evaluate their report for the Director of NIH. The group was commonly referred to as the "Richards Panel," and he was widely regarded as its Chairman, though officially, there was no panel or chairman—just a group of individual consultants, seven scientists and a law school dean. The consultants were selected by the then-Acting Director of NIH, William Raub, from a list prepared at his request by the National Academy of Sciences, of which Richards, a protein chemist, has been a member since 1971. Most of the group's work was conducted under Bernadine Healy, who became NIH Director in 1991.

The Gallo-Popovic investigation, conducted by what was then the Office of Scientific Integrity (OSI), resulted in a finding in 1992 of scientific misconduct on the part of Popovic. Gallo was censured for unbridled glory seeking and poor scientific etiquette, but OSI concluded that his misdeeds did not come up to the level of scientific misconduct, defined as "fabrication, falsification, or plagiarism." (A reopening of the case resulted a year later in two findings of misconduct against Gallo, but both were dropped by the government after the Popovic case was dismissed by the Appeals Board.)

Carrying out his assignment to evaluate the OSI performance for Healy, Richards wrote what has come to be regarded as a collective statement of the consultants, though he noted in a covering letter, "I am the sole signatory on the enclosed document."

Arguing that OSI had dealt too lightly with Gallo, the "Richards Report" said Gallo's lab had deliberately concealed its reliance on the French virus, and was guilty of "intellectual recklessness of a high degree—in essence, intellectual appropriation of the French virus." Noting reports of Gallo's lack of cooperation in sharing research materials with other AIDS researchers, Richards described Gallo's behavior "to be essentially immoral in view of the growing seriousness of the AIDs epidemic."

Richards also faulted the OSI report for focusing the blame on subordinate Popovic, rather than lab chief Gallo, who, Richards said, had the duty to "monitor the performance of all personnel in the Laboratory and to pay particular attention to the accuracy of major publications which bear his name as author."

Since writing that report, Richards has publicly said little about the Gallo case, until responding last month to SGR's request for an interview. "What's lit the fire," he explained, "is what's happened in the last couple of months"—meaning disclosure of the Barre-Sinoussi affidavits and the Myers papers. He said he learned about both from the staff of Congressman John Dingell, who, holding a low opinion of the state of scientific ethics, took an early interest in published allegations of Gallo's misdeeds in AIDS research.

The "major purpose of this whole investigation," Richards said, "was to find out whether they stole the virus. The answer is, they stole the virus. But we didn't know that at the time these [investigative] reports came out."

Reminded that Popovic denied the conversation reported by Barre-Sinoussi, Richards said: "Except, when you look at what actually happened, it [the reported conversation] makes such good sense. I tried to put myself in Popovic's position, trying to prepare a viral preparation in a continuous culture when I already had one going, and the only reason we weren't using it is because the chief [Gallo] says, 'Stop doing it, I don't want any credit to go to the French.' Popovic does it.

"Does Gallo know or does he not know?" Richards continued. "I, of course, have no way of knowing whether he did. It's clear from the Myers work that he sure knew it just a short time after that."

Barre-Sinoussi's sworn statement, dated November 13, 1993, says the conversation with Popovic occurred in August 1992 in Bethesda, Md., during a conference sponsored by Gallo's laboratory. "I have known Dr. Popovic for many years," she stated. "We shared a ride on a van taking participants to another location. Dr. Popovic brought up the OSI findings [against him] of scientific misconduct during this ride.

"Dr. Popovic told me that he was not responsible for the changes in his May 1984 *Science* paper ... that deleted references to LAV. He told me that Dr. Gallo had changed the paper to delete those references and the discussions of LAV. Dr. Popovic stated that he felt it was fortunate that he had saved the drafts of his paper that showed that he tried to give credit to the Pasteur researchers when he wrote the paper."

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# . . . Other Consultants Also Unhappy With Outcome

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The Barre-Sinoussi affidavit continues: "Dr. Popovic told me that he had several isolates in 1983. He stated then that he added his isolates to LAV to try to increase its titer, i.e., to enhance the growth capacity of the virus."

The statements by Barre-Sinoussi evoked a challenge from Gallo, and she subsequently modified her account of the Popovic conversation. In a letter to Gallo dated March 14, she wrote: "It is true that I never said that Mika [Popovic] made a direct statement that LAV (LAI) had been put deliberately into the pool. However, since I assumed that LAV had indeed been added to the pool, I mentioned it in the conversation with Mika as an established fact, which was not contradicted by him.

"My personal belief that LAV has been added to the pool was not caused by the 'Paris press' but by my intimate knowledge of the events connected with the discovery of the virus from its very beginning."

The issue extends beyond scientific credit. Claiming it was robbed, Pasteur has challenged the validity of its 50-50 royalty agreement with the US government on the HIV blood test. Gallo and several other researchers each receive $100,000 a year under the agreement.

Contacting three of Richards' colleagues on the misnomered "Richards Panel," SGR found all dissatisfied with the outcome of the Gallo case, but uncertain over what if anything should be done about it at this stage.

Alfred Gilman, Chairman of the Department of Pharmacology, University of Texas Southwestern Medical Center, Dallas, said, "I feel out of the loop." He noted, though, that he had recently discussed the case with Richards and felt that "There are large, important issues that got lost in the minutiae and there was never any closure on significant ones of them."

The Gallo case, Gilman said, involved "behavior most scientists find unattractive, uncalled for," adding that "Gallo continues to run a big lab, which is not appropriate."

Gilman described the Departmental Appeals Board as "excessively legalistic and absurd." He said that the US government's resistance to Pasteur's claims for revision of the royalty agreement "amazes me." Saying that he had heard about but was unacquainted with the Barre-Sinoussi and Myers papers, Gilman said he considered the case closed "unless a specific purpose can be served by a new investigation."

Another member of the "panel," Professor Mary Jane Osborn, Department of Microbiology, University of Connecticut Health Center, described herself as "fed up with the issue." But, in response to Richards' call for reopening the Gallo case, she said, "I tend to agree with him, though I'm not as clear as Fred is on the quality and nature of the new evidence. I don't feel the case was satisfactorily settled." Osborn said, "I haven't looked at the Myers correspondence closely, but to the extent I did, I do not feel it changes anything." As for reopening the Gallo case, she expressed doubt about "whether clarification at this remove is possible."

Among the three scientists queried by SGR, the strongest support for Richards' call for reopening the case was expressed by Robert B. Wagner, Professor of Oncology and Microbiology, University of Virginia School of Medicine. Based on what he had recently heard from Richards, he said, "I would agree with him."

Wagner added, "I'm uncertain about the next step, but I lean toward the decision that it should be reopened." Referring to the decision of the Departmental Appeals Board, Wagner said, "Maybe it was legally correct, but it was not scientifically correct."

Is there a possibility that the new evidence will lead to a reopening of the Gallo case? Apparently not, SGR concludes from discussing the matter with Lyle Bivens, Director of the Office of Research Integrity, which defiantly repeated its findings against Gallo last November even as it announced that, because of new evidentiary standards set by the Appeals Board, it would not contest his appeal.

Bivens told SGR, "From a general point of view, it is possible to reopen the case." But, he emphasized, "Reopening is not on the agenda and we are not considering it." He didn't discuss the significance of the Barre-Sinoussi and Myers evidence, or whether he felt reopening the case was warranted. ORI, Bivens said, has its hands full with the investigation of fraud in breast-cancer trials administered by the University of Pittsburgh. Also awaiting completion at the Office of Research Integrity is a high-profile case from years ago, involving Theresa Imanishi-Kari, of Tufts University, commonly referred to as the Baltimore case because of her collaboration with Nobelist David Baltimore, who was not charged with wrongdoing. For ORI, this is a big one, and if it goes to appeal, which appears likely, ORI, after the Popovic battering, needs to win it.

A detailed history of the Gallo case is being written by Suzanne Hadley, on detail from NIH to Chairman Dingell's Oversight and Investigations Subcommittee. First as a member of the old Office of Scientific Integrity, based at NIH, and then as an investigator for Dingell, Hadley has been associated with the Gallo case from the beginning, and possesses encyclopedic knowledge of the case, as well as documentation. Still undecided is whether the Hadley report will be issued under the imprint of Dingell's Subcommittee or possibly in some other way. Noting that the scientific community generally elicits sympathetic treatment in the press, Dingell's inner circle has been divided on the political benefits of harping on scientific delinquencies.

However, the Chairman came out looking good in his hearings last month on Pittsburgh's management of breast cancer trials, and this experience could tilt the decision in favor of publishing what is likely to endure as the definitive report on the Gallo case.—DSG

# Congressional Homework for 100 Universities

*From comments by Rep. Sherwood Boehlert (R-NY) during debate in the House of Representatives May 3 leading to passage of the reauthorization bill (HR 3254) for the National Science Foundation. Boehlert spoke about his amendment to the bill, Title V, which requires the top 100 university recipients of NSF funds to report to the Foundation their policies on undergraduate teaching, tenure, promotions, and related matters.*

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Of all the problems facing American education, the decline of undergraduate education ought to be one of the easier ones for us to solve. That is because the problem is largely an artifact of our own policies. We have richly rewarded research without requiring any concomitant devotion to education. Not surprisingly, academic interest has followed the money, and we are left with the present state of affairs.

Yes, universities have begun to address this issue, but some of their responses have merely highlighted how severe the problem is. Various universities have trumpeted the fact that they now ensure that their foreign-born teaching assistants can be understood or that they have managed to get some senior faculty to teach. The fact that these meager changes can be viewed as real accomplishments shows how far our universities have drifted from their teaching mission.

We need fundamental change at our universities—change so that professors who are interested in teaching do not feel like kooks or pariahs. That requires more than tinkering. The reaction of some university groups to the mild language in this bill is another sign of how badly a change in mindset is needed.... My point is not that research and teaching are unrelated, or that there should be no research faculty. My point is that we must get away from a mindset that systematically undervalues undergraduate education. NSF also has to do some rethinking—and is required to do so by this bill. We ought to figure out how to distribute research dollars in a way that does not provide disincentives for education.

Perhaps some kind of institutional commitment to education ought to be a condition for receiving research awards. Perhaps undergraduate assistants should be included in all federally funded research projects. Perhaps NSF should fund the program Chairman Brown and I created in 1990 and fund some Centers of Excellence in Undergraduate Education. I will wait to see what NSF recommends....

The provision in this bill has been significantly redrawn since its introduction in October to reflect the legitimate concerns of universities and some helpful suggestions from the American Chemical Society. We have replaced annual reporting with a trimmed-down one-time study that seeks information that should not be a burden to anyone.

## *Job Changes & Appointments*

***Frederick M. Bernthal***, Deputy Director of the National Science Foundation since 1990, has been appointed President of University Research Association, Inc., a Washington-based consortium of 80 universities that manages the Fermilab for the Department of Energy and was also at the helm of the ill-fated Superconducting Super Collider. Bernthal succeeds ***John Toll***, who will return to the University of Maryland as Chancellor Emeritus and Professor of Physics. In mid-April, the White House announced its intention to nominate ***Anne C. Petersen,*** Vice President of the University of Minnesota, for Bernthal's job at NSF. But, as is often the case with Clinton's appointments, the tempo is slow; as of mid-May, the Senate had not received Petersen's nomination. Bernthal, a nuclear chemist with a Republican pedigree, was one of the longest surviving holdovers of the Bush Administration.

***H. Ronald Pulliam***, an ecologist at the University of Georgia, has been named the first Director of the National Biological Survey, a creation of Secretary Bruce Babbitt in the Department of the Interior, something along the lines of the venerable US Geological Survey. Pulliam, a former Director of the University's Institute of Ecology, says he'll be on a three-to-five-year leave while holding the Survey job, for which he was recommended by a search committee of the National Academy of Sciences. The directorship is a Secretarial appointment and therefore avoids the ordeal of Presidential appointments.

***Richard Rowberg*** has stepped down as Chief of the Science Policy Research Division in the Congressional Research Service, and will conduct research in the Division as a Senior Specialist in Science and Technology. Rowberg headed the Division since 1985. He will be succeeded on an acting basis by ***Jane Bortnick Griffith***, Assistant Chief of the Division.

***Paul R. Young***, Professor of Computer Science and Engineering at the University of Washington, has been appointed head of the National Science Foundation's Directorate for Computer and Information Science and Engineering, a $240-million-a-year operation that provides support for NSF's four supercomputer centers and some 5000 researchers throughout the country.

***Frank H.T. Rhodes***, retiring President of Cornell University, last week was elected Chairman of the National Science Board (NSB), policymaking body of the National Science Foundation. He succeeds ***James Duderstadt***, President of the University of Michigan, who headed the NSB since 1991. ***Marye Anne Fox***, Department of Chemistry, University of Texas, Austin, was elected Vice Chairman of the Science Board, succeeding ***Thomas B. Day***, President of San Diego State University.

# In Print

*(Continued from Page 8)*

cations and Technology, chaired by Arati Prabhakar, Director of the National Institute of Standards and Technology. The report discusses the benefits that the big plan is expected to produce for education, manufacturing, business transactions, provision of government services, etc.

**Order from: National Technical Information Service, Springfield, Va. 22161; tel. 703/487-4650; fax 703/644-4278; soon to be available, too, from the US Government Printing Office.**

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***Grants for Science Education: 1994*** (124 pp., no charge), from the Howard Hughes Medical Institute (HHMI), a report on how it plans to spend $52.5 million this year on educational activities and other special programs, as an add-on to HHMI's main business, which is the support of big-league biomedical research in universities and hospitals. Inaugurated by HHMI in 1988 under pressure from the Internal Revenue Service to accelerate the expenditure of its multi-billion-dollar tax-free mother lode, the education program has so far belted out over $300 million for pre- and post-doctoral fellowships, undergraduate science programs, and pre-college science activities. Among HHMI's newer programs: $3 million for 100 grants over five years for researchers in the former Soviet Union and Eastern Europe. The report also reviews past activities and tells how to apply for a slice.

**Order from: Howard Hughes Medical Institute, Office of Grants and Special Programs, 4000 Jones Bridge Rd., Chevy Chase, Md. 20815-6789; fax 301/215-8888.**

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***Medical Research Council of Canada [MRC]: Report of the President, 1992-1993*** (37 pp., no charge), from the government agency responsible for supporting basic and clinical biomedical research in medical schools and hospitals, reports spending $165 million (Canadian) on 2010 research grants in the fiscal year that ended in December 1993. Over the past three years, the report states, the average approval rate for grant applications was near 26 percent. (The US National Institutes of Health, counterpart of the MRC, says its funding of new grants has hit a record low of about 15 percent.) Expenditures by province, university, and discipline are listed in the MRC report, as are members of peer review groups.

**Order from: Medical Research Council of Canada, Communications Branch, Holland Cross, Tower B, 5th Floor, 1600 Scott St., Ottawa, Ontario, Canada; tel. 613/954-1382; fax 613/954-6653.**

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***The Animal Policy Report: A Newsletter on Animal and Environmental Issues*** (quarterly, 8 pp., $20 per year), from the Center for Animals and Public Policy, Tufts University School of Veterinary Medicine, displays a degree of calm and dispassion rare in discussions of animal rights. The report covers current legal and administrative issues, recent publications and meetings, statistical data on animal use, etc. From the same source, there's a companion publication, also in newsletter format: ***The Alternatives Report: Replacement, Reduction, and Refinement in Animal Research, Teaching, and Testing*** (bimonthly, 6 pp., $48 per year). Both publications are edited by Tufts Professor Andrew D. Rowan.

**Order from: Center for Animals and Public Policy, Tufts University School of Veterinary Medicine, 200 Westboro Road, North Grafton, Mass. 01536; tel. 508/839-7991. (Checks payable to the Trustees of Tufts College.)**

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***Science International*** (quarterly, 52 pp., no charge), publication of the International Council of Scientific Unions (ICSU), which encompasses most of the world's academies of science, research councils, and international scientific societies. Included are reports from ICSU-sponsored congresses and symposia, of which there are hundreds, appointments to ICSU-related positions, meeting schedules, etc.

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***Beyond the Crisis: Excellence and the Future of Health Care, Public Health, and the Biomedical Sciences*** (35 pp., $10), summary of a conference held last February by the New York Academy of Sciences, with participants from academe, health industry, and government. Topics included financing of academic health centers, NIH-university relations, and capital for the biotechnology industry. The conference was sponsored by the Commonwealth Fund, the Josiah Macy Jr. Foundation, the Metropolitan Life Insurance Co., Glaxo, Inc., and Pfizer, Inc. An order form is included for the full proceedings, scheduled for publication this summer.

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# In Print

## Official reports and other publications of special interest to the research community

*(Copies of publications listed here are available from the indicated sources—not from SGR)*

***Recognition and Rewards in the Mathematical Sciences*** (40 pp., no charge), report based on a two-year study commissioned by the Joint Policy Board for Mathematics, takes the long way around in concluding that research should be considered of topmost importance in awarding money, tenure, rank, etc., but teaching and administration should be also credited, though improved methods of evaluating the latter two are needed, etc. The study, chaired by Calvin C. Moore, of the University of California, surveyed 600 department chairs and 2000 faculty members in 26 institutions. The Joint Policy Board embraces the American Mathematical Society, the Mathematical Association of America, and the Society for Industrial and Applied Mathematics. Support for the study was provided by the National Science Foundation and the Exxon Education Foundation.

**Order from: American Mathematical Society, 1527 18th St. NW, Washington, DC 20036; tel. 202/588-1100; email: amsdc@math.ams.org**

***Undergraduate Education in Electrical, Mechanical, and Civil Engineering*** (92 pp., no charge), from the National Science Foundation, enrollment, financial, and curricular data from a survey that drew responses from virtually all of the 327 institutions that award the bachelor's degree in these fields of engineering. Major findings: enrollments in undergraduate electrical engineering dropped by 30 percent from 1987-92, though female enrollments rose 11 percent to nearly one-fifth of the total; undergraduate engineering students rarely encounter a female teacher, and black, Hispanic, and American Indian students constituted 8 percent of the enrollments in 1992. Topping the list of the "most serious problems" cited by faculty: money for instructional lab equipment and salaries, academic preparation of entering students, and number of teaching assistant positions. The report is number 16 in the Higher Education Surveys series sponsored by NSF, the Department of Education, and the National Endowment for the Humanities, and was prepared by NSF's Division of Science Resources Studies.

**Order from: National Science Foundation, Division of Science Resources Studies, Suite 965, Arlington, Va. 22230; tel. 703/306-1774; fax 703/306-0510.**

***Putting the Information Infrastructure to Work*** (NIST Special Publication 857; 109 pp., $27), a collection of papers from the Department of Commerce whooping it up for one of the Clinton Administration's biggest high-tech goals, usually referred to as the information superhighway. A Commerce press release says the writings were "generated" by the Information Infrastructure Task Force Committee on Appli-

*(Continued on Page 7)*

*Recent reports from the Science Policy Research Division of the Congressional Research Service, part of the Library of Congress (all without charge).*

***Major Science and Technology Programs: Megaprojects and Presidential Initiatives, Trends Through the FY 1995 Request*** (94-312 SPR; 28 pp.), says the big projects—generally those over $25 million a year—are budgeted for a 11.9 percent increase, while the proposed increase for total federal R&D spending is a ground-losing 2.8 percent. The megas, including Presidential (or National) Initiatives in global change, high-performance computing, and agriculture, account for about 25 percent of the R&D budget, according to the report, which lists scores of the big ones, civilian and military, along with their budget records. The report was prepared by Genevieve Knezo.

***National Aeronautics and Space Administration's Fiscal Year 1995 Budget Request*** (94-280 SPR); 19 pp.), a concise examination of the mismatch between NASA's aspirations and money, just in time for the coming battle on Capitol Hill over the Space Station, which even old friends like Rep. George Brown (D-Calif.) consider beyond NASA's means. David P. Radzanowski wrote the report.

***Breast Cancer*** (94-236 SPR; 41 pp.), on the most politicized health issue of the moment, a review of breast-cancer research budgets, studies of the effectiveness of mammography screening, and public perceptions of the risk of breast cancer. Written by Judith A. Johnson, Specialist in Life Sciences in the Science Policy Research Division, the report disputes claims of underfunding of breast-cancer research relative to other cancers, and states: "Given the current funding levels for many other diseases (such as heart disease, stroke, or even other cancers) which have a major morbidity and mortality impact on the US population, many may question whether such a large expenditure on breast cancer is in the best interests of the country as a whole."

***Ecosystem Management: Federal Agency Activities*** (94-339 ENR; 124 pp.), produced in collaboration with the Environment and Natural Resources Policy Division of the Congressional Research Service, this one summarizes the "ecosystem management" activities reported by 18 federal agencies that participated in a Congressional symposium on March 24. The report was prepared by Wayne Morrissey, Jeffrey Zinn, and M. Lynne Corn.

***Federal Funding for AIDS Research and Prevention: FY81-FY95*** (94-309; 22 pp.), tracks expenditures from the $200,000 in 1981 to $2.7 billion requested for next year. Judith A. Johnson wrote the report.

**Copies of these reports are available through the offices of Senators and Representatives, who are usually eager to oblige a constituent. Specify the Congressional Research Service and publication number and title. Senate switchboard: 202/224-3121; House: 202/225-3121.**